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THE EFFECT OF EXTERNAL FACTORS ON PROFITABILITY OF ACCEPTED BANKS IN TEHRAN STOCK EXCHANGE

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Abstract:
The growth and decline or economic downturn of countries is closely linked to the workings of banking institutions. The banking system offers services without which the economic system of the country remains open. The purpose of this study was to investigate the effect of internal factors on profitability of accepted banks in Tehran Stock Exchange. To describe the research method, Mark, Philip, and Adrian (2009) used the onion model for the research process. This model has 8 layers, and the present study based on the lines of the paradigm were categorized of research on affirmation, the main type of applied research, the method of analytic-hypothesis research, quantitative research strategy, field research, the choice of research method in correlation and time series, the research objectives were descriptive and, finally, the methods and procedures for collecting data of reviewing library resources and financial ratios. The statistical population of this study was equivalent to the total accepted banks in Tehran Stock Exchange. All statistical analyzes were performed at the error level of 5% with the help of Excel 2016 and version 10 of Eviews software. The results of this study revealed that credit risk factors have a linear and significant correlation with profitability (return on equity and equity ratio), stock market indices and profitability (return on assets and equity ratio).

JEL: G21, G24, G20

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1. Introduction

The profitability of a bank must be consistent with other financial goals, such as income growth and asset quality improvements. In this regard, in addition to considering the balance sheet conditions of the bank, such as an increase in the ratio of capital adequacy and annual returns of capital, the macroeconomic environment should also be considered. In order to achieve these goals, raising the level of confidence and reducing risk aversion in the banking system, using the results of stress tests minimizes the financial loss from financial crises. According to the importance of the current economic issue of the country, which are a view of the conditions of recession on the one hand and the predictability of a few macro variables on the other is effective on reducing interest rates on deposits and increasing inflation and the growth of equity markets in parallel (currency and gold) cause that which banks face with difficulty in generating new resources and attracting deposits, which will lead to the creation of critical conditions for the management of bank assets and liabilities and ultimately to reduce its profits, in addition, the increase in non-current claims (deferred, past due and suspicious) and the increase in savings for these claims, apart from the double impact on increasing the uncertainty in the return of resources and aggravating predictions for matching the maturity of assets and liabilities to future bank profits and losses. The growth and decline or economic downturn of countries is closely linked to the workings of banking institutions.

The banking system offers services without which the economic system of the country remains open. The capital in banks is the main source of purchases of their products and services, and they are the source of credit for all economic entities such as families, businesses, companies and the state. Therefore, the optimal performance of the banks is very important for the various economic activities of the country (Safayan, 2013). Commercial banks are financial institutions that attract the stagnant people and provide businessmen and other applicants with financial facilities. In fact, they carry out their operations to transfer funds from individuals that won't want to invest in various causes, including low knowledge and expertise, inadequate capital and fear of investment risk or cannot contribute to economic activity, provide those who need to invest in finance and, in this way, contribute to the country's economic growth. Due to the important and important role that money, banking and banking are playing in the economic and social growth of societies today, the country's banking network has a huge responsibility in achieving its goals and we must try to make an effective and effective contribution to the realization of the aspirations of the Islamic Republic of Iran. Today's society expects the country's banking system to choose the safest method of allocating credit to various sectors of the economy, along with an effort to attract deposits. In other words, the money tools that savers provide to banks will benefit the country. Research on various issues related to the stock exchange can identify strengths and weaknesses and help the Stock Exchange to play a large role. Also, these studies can help shareholders make the right decisions, and optimize the allocation of economic resources, and make investment better.

Therefore, the main research question is presented below: *"What are external factors affecting the profitability of banks accepted in Tehran Stock Exchange?"*

2. Research History

2.1 Internal research

Jamshidi and Kia (2015) investigated the effect of bank characteristics and banking industry on the profitability of branches of Tehran Export Banks. The results indicate that bank characteristics and characteristics of banking industry have a significant effect on return on equity.

Seyyed-Nourani and Amiri (2012) in a study titled "The causality between bank capital and profitability", with emphasis on the supervisory aspect of capital structure. Evidence supports the hypothesis that there is a positive relationship between asset efficiency and capital structure. Also, other results of the research show a positive relationship between debt ratio and profitability criteria. It is worth noting that profitability is defined as the two criteria of return on assets and returns on capital.

Aghaei (2009) in a research study entitled "Attitudes of private bank managers in Iran toward customer profitability assessment". The results of the research show that in the private banks of Iran, the customer profitability measurement system has not been developed; however, the managers of such banks have a positive view of the establishment and development of this system and believe that customer profitability information affects their decision to lend to customers, determine the cost of granting facilities, establish or remove relationships with customers, pricing services provided to the customer, and marketing strategies.

Goodarzi and Zabidi (2008) investigated the impact of electronic banking on the profitability of Iranian commercial banks. The results show that increasing the number of ATMs in each bank has a positive effect on the bank's profitability. This effect has increased after the bank joined the accelerated network and based on this, it can be concluded that the expansion of electronic banking has a positive and significant effect on the profitability of Iranian commercial banks.

Anvari Rostami and Rezayat (2007) in a research comparative study of the profitability of banking credits of Islamic contracts in a cost-effective way based on the practice and traditional costing method: the case of the Iranian Export Development Bank. The results of the research show that the t test shows that the cost of concessional loans in the form of installment sales contracts, Civic Participation and Qarzo-al-Hassneh under two costing systems have a significant difference. Therefore, they will overwhelm management decisions in a variety of ways. The present study is the first research in Iran to study the system of cost-effective pricing based on activities in the banking sector credit system.

3. Foreign (external) research

Abhiman et al (2009) studied some of the branches of major Indian state banks, such as human resources, staffing levels, bank environment, bank location, advertising, government regulations, and government interventions in banking matters are among the factors that affect the attraction of people's deposits. According to them, the most important and most influential factor in attracting people's funds is human resources.

Lazarides and Trifanides (2006) concluded in a research entitled "The Relationship between Working Capital Management and Profitability in Companies Accepted in the Athens Stock Exchange" by reviewing 131 companies between 2004 and 2001 and there is a significant relationship between profitability (return on assets) and the cash changeover period and managers can play an important role through optimal management of the components of the cash conversion process, including accounts receivable, inventories, and accounts payable to generate profits for companies. West and Worthington (2006) have reviewed the role of macroeconomic risk factors in the returns of Australian financial markets assets and GARCH-M model has been used in this study. The variables of this survey include: listed administrative and retail asset returns, industry, credit assets and capital assets and market returns, long-term interest rates, medium-term and short-term interest rates, expected and unexpected inflation rates, construction activity and employment and industrial production. The results of macroeconomic risk factors are significant in the returns of Australian financial assets.

These factors systematically affect asset returns. Inflation has an impact on the return on assets, retail, industrial and credit assets, and interest rates are also a significant risk factor for all asset portfolios. The ability to predict these models varies, which indicates that these methods are suitable for modeling the efficiency of financial markets using macroeconomic factors as systematic risk factors.

Yong and Jang (2006) studied long-term profitability in Taiwan banks and concluded that banking services were the most important factor in profitability and profitability for the bank branches studied. In addition, bank employees are the most important factor in achieving profitability and profitability.

Fallenry and Prokopapadakis (2002) have studied the effect of five macroeconomic variables on New York Stock Exit Performance Index using the GARCH method; three variables are used in nominative terms (consumer price index, currency exchange rate and money supply strength), and three real variables (business relationship, employment rate, and housing price) in the model. The results show the relationship between the variables and the stock return index (with different marks) in the model.

4. Research Methodology

To describe the research method, Mark, Philip, and Adrian (2009) used the onion model for the research process. This model had 8 layers, and the present study based on the elements of the paradigm of research was affirmation, the main type was applied research, the method was analytic-hypothesis research, the research strategy was quantitative and field research, the choice of research method was correlation and time series, and also the research objectives were descriptive. The statistical population of this study was equivalent to the total accepted banks in Tehran Stock Exchange. In this research, the statistical sample was obtained using the full-scale method and applying the following conditions:

1. The end of the fiscal year of the banks was at the end of the calendar year (March 29 or March 30). The reason for this condition is to neutralize the effect of commercial cycles affecting the performance and financial position of banks.
2. Required data were provided by banks in analyzes. The reason for this is also clear, without data, virtually nothing can be done.

It should be noted that in this research, 11 banks accepted in Tehran Stock Exchange during the period of 2011-2011 were selected. The information gathering tool used to investigate the existing documents of the banks in the Tehran Stock Exchange included a balance sheet, a profit and loss statement. The initial data were classified using Excel software and using the formulas and financial ratios into the statistical data of the research. In this study, descriptive statistics and inferential statistics were used to analyze the findings. In the descriptive statistics section, a selection of the most important indicators was used and in the inferential statistics section, multiple linear regressions were used. It should be noted that all statistical analyzes were carried out at the error level of 5% with the help of software versions Excel 2016 and version 10 of Eviews.

5. Research Variables

5.1 External Factors

In this study, we used credit risk indicators and stock market indices to measure external factors.

5.2 Profitability

In this study, we used the indicators of return on assets or total assets and the equity ratio of owners of the owners to measure profitability.

5.3 Research Method

To test the hypotheses, regression models are used in which internal factors are dependent on independent variables and profitability of the variable.

$$Profitability\ \ index = \beta_0 + \beta_5 \text{Credit risk}_{5t} + \beta_6 \text{Stock market index}_{6t}$$

6. Results

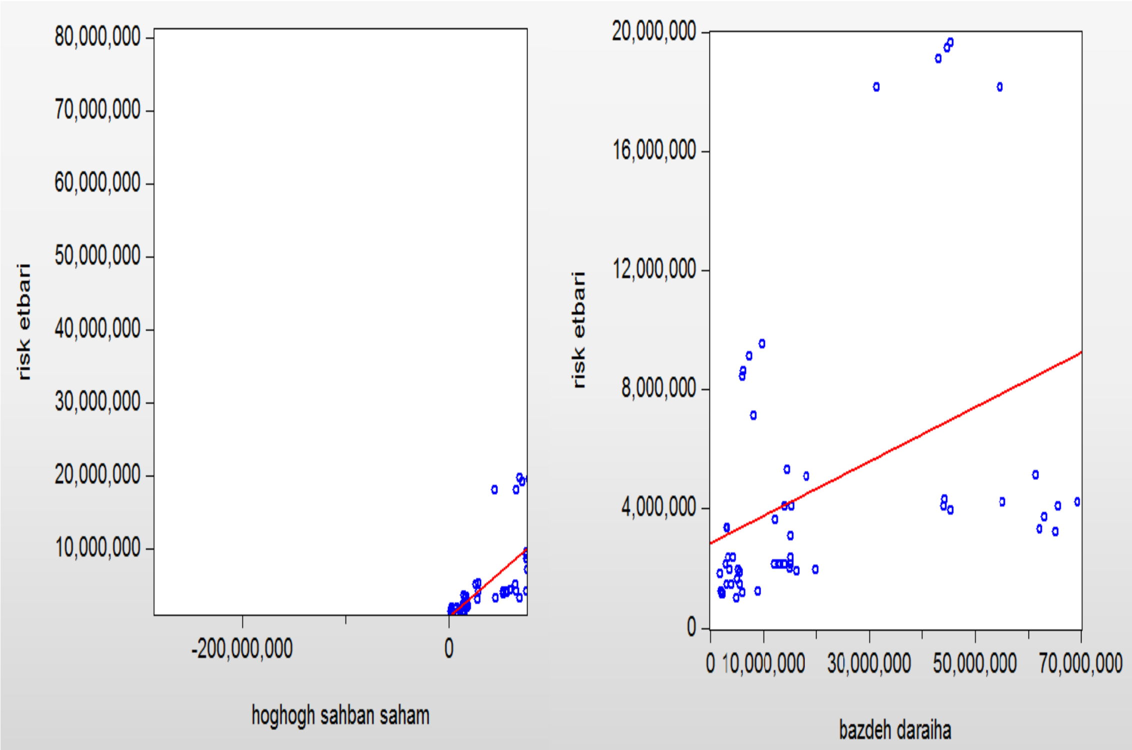
Hypothesis zero (1): There is no significant relationship between credit risk and profitability of accepted banks in Tehran Stock Exchange.

Table 1: Correlation Estimation of Credit Risk and Bank Profitability

Variables		Coefficients Value	Standard Deviation Error	t statistics	Sig	Hypothesis zero
Credit risk	ROA	1.6559	0.5438	3.0447	0.0036	Rejected
	ROE	3.5728	0.5571	6.4123	0.001	Rejected

Based on the results of the above table, the significance level of the coefficient of credit risk indices with profitability (returns and equity ratio) of accepted banks in Tehran Stock Exchange is less than 5% confidence level. With this, the hypothesis zero is rejected.

Chart 1: Correlation between Credit Risk and
Bank Profitability (Return on Equity and Equity)



Based on Chart 1, it is clear that the correlation between credit risk and profitability indices of banks accepted in Tehran Stock Exchange is linear.

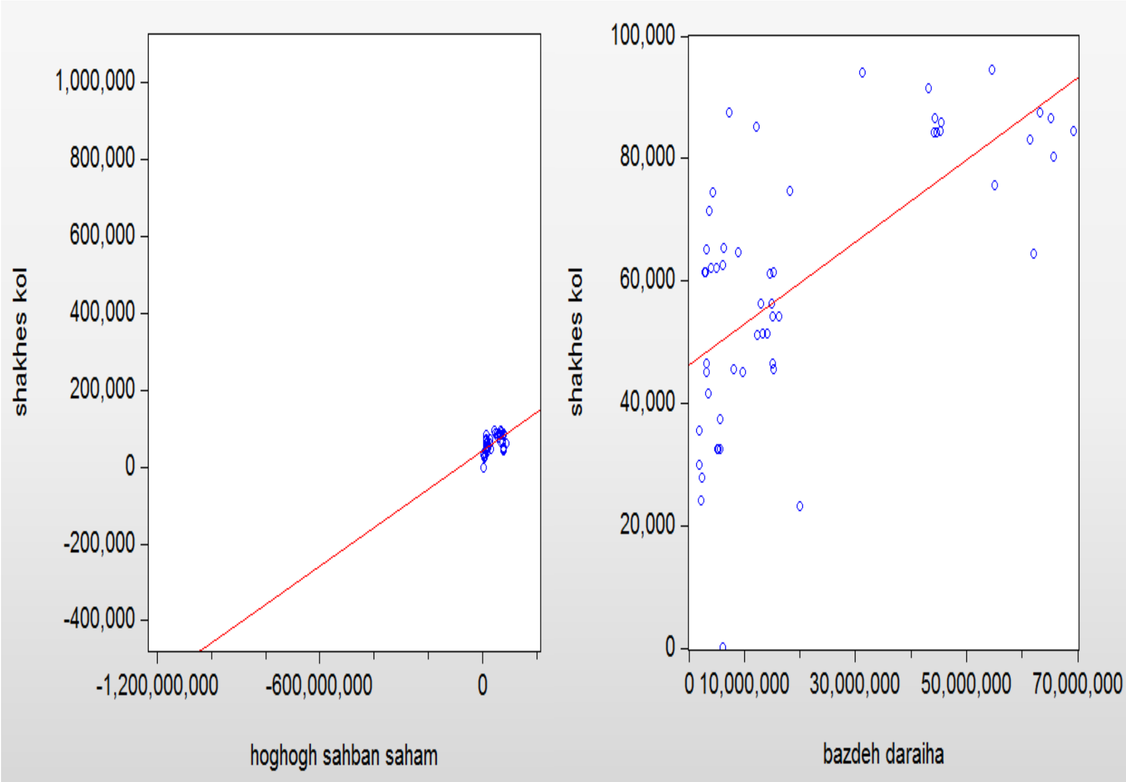
Hypothesis zero 2: There is no significant relationship between stock market index and profitability of accepted banks in Tehran Stock Exchange.

Table 2: Estimation of Correlation between Stock Market Indices and Bank Profitability

Variables		Coefficients value	Standard deviation error	t statistics	Sig	Hypothesis zero
Credit risk	ROA	645.558	101.5226	6.3686	0.0001	Rejected
	ROE	765.974	133.4296	5.7406	0.0001	Rejected

Based on the results of the above table, the significance level of the index of the stock market and the profitability (return on equity and equity ratio) of the banks accepted in the Tehran Stock Exchange is less than the 5% confidence level. With this, the hypothesis zero is rejected.

Chart 2: Correlation of the stock market index and profitability of banks (return on assets and equity)



7. Discussion and Conclusion

The results of the first hypothesis show that credit risk has a linear and significant correlation with profitability (return on equity and equity ratio) of accepted banks in Tehran Stock Exchange. This finding, or findings from the study by Shawalpur and Ashari (1392), which examined the impact of credit risk on the profitability of banks in Iran, and reported that there is a contradiction between the risk of credit and the profitability of banks with a significant negative relationship. The reason for this correlation is the correlation between the two indices. In the present study, the direct linear correlation is indicated, but in the study of Shaolpoor and Ashari (1392), the negative correlation is reversed. Credit risk is one of the most important factors affecting bank system lag. The level of credit risk affects the quality of bank assets; the quality of bank assets is dependent on the process of non-performing claims and the health and profitability of the beneficiaries of the bank's facilities. Flamini, McDonald and Schumacher (2009) examined the factors affecting the profitability of banks in 41 different countries. The sample of his research was 389 banks. The results of this study indicate that credit risk and bank size are the most important factors affecting the profitability of banks. Regarding to Hinney's (2010) theory, there was an increase in

ROA between 2000 and 2005 and a decrease in ROE banks in the United States. According to the results of the survey, created for senior bank executives, there are three risk factors that most cooperated with financial crises: inappropriate risk management, poor risk culture, and ineffective motivation and recalculation policies. Risk monitoring is essential for the extreme risk, while banks need to develop a strong risk culture by encouraging tax estimates, measuring and decreasing the thinking direction of the bank staff at all levels of the organizational hierarchy. In addition, incentive and recalculation policies should reward managers with strong performance based on long-term goals and maximize the ability of bank shareholders. If the right move is rewarded again, this is in the best interests of managers to not decide on the risk of the bank to increase infinite levels, which results in a dwindling stock in the event of a lack of sufficient returns. Finally, the results of the second hypothesis also showed that the stock market index and profitability (return on equity and equity ratio) of the accepted banks in Tehran Stock Exchange had a linear and significant correlation.

This finding is consistent with the findings of Chen and Daud (1997) that the relationship between changes in stock returns and changes in the various measures of profitability measurement, including economic value added, residual profit, return on assets, earnings per share and return on equity were examined and concluded that changes in the economic value added, residual profit, return on assets, earnings per share and return on equity were related to changes in stock returns of 20.2%, 19.4%, 24.5%, 5%, and 7%, respectively. The stock market index is a way to measure part of the stock market. This index reflects the general trend of the stock price of all companies admitted to the stock exchange. According to the formula, the price changes of bigger companies, which also have more capital, have a greater impact on the fluctuation of the index. In each Stock Exchange market, you can define and calculate many indicators based on the need and efficiency. Investors should pay attention to two things. First, the increase in the total index does not mean the profitability of all stocks in the stock exchange. And this also does not reduce the total index, meaning losses in the total stock in the stock exchange, and secondly, one of the most important issues in investing in stock is the stockpile. Investors should have a kind of industry share in their portfolio from any industry. This indicator is an indicator of the dynamics of the securities market. By comparing the current value of the index with its previous values, one can assess the behavior of the market, responsive to changes in the macroeconomic situation and corporate events (mergers, acquisitions, etc.). The study found that credit risk factors had a linear and significant correlation with profitability (return on equity and equity ratio), stock market indices, and profitability (return on assets and equity ratio).

8. Practical suggestions rose from the research

Due to the correlation between facilities and profitability, banks must, with the help of their credit and financial policies, provide means of economic growth and development in the country, because such growth will be profitable in the respective banks. In general, according to the results of the research, considering that credit risk is considered as the most important type of risk in the banking system and one of the most important factors affecting the profitability of banks. In order to increase the profitability of banks, bank system managers must consider continuously controlling and controlling credit risk in order to improve their performance and profitability.

9. Proposals for future studies

1. This study examines the statistical society of the banks accepted in the Tehran Stock Exchange; future studies can do this in other Yankees and other Shares.
2. Indicators have been used to examine the internal factors associated with the profitability of banks, but future studies may also use indicators of asset volume and capital adequacy ratios.
3. Different indices were used to examine the external factors related to profitability of banks, but future studies can, in addition, use indexes of inflation, economic growth, exchange rate volatility and interest rates.

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